



Directorate of  
Intelligence

~~Top Secret~~

25X1

# Hidden Players in a Deadly Game: Biological Warfare Programs Worldwide

25X1

An Intelligence Assessment

~~Top Secret~~

SW 88-10076CX

December 1988

Copy 190

25X1

**Page Denied**



**Directorate of  
Intelligence**

**Top Secret**

25X1

# **Hidden Players in a Deadly Game: Biological Warfare Programs Worldwide**

25X1

**An Intelligence Assessment**

25X1

*Reverse Blank*

**Top Secret**

*SW 88-10076CX*

*December 1988*

25X1

Top Secret

25X1

## Hidden Players in a Deadly Game: Biological Warfare Programs Worldwide

25X1

### Key Judgments

*Information available as of 1 November 1988 was used in this report.*

Many countries are discovering that, with the technologies available today, biological weapons are potentially one of the most lethal weapons of mass destruction ever developed:

- Biological agents can cause mass fatalities with relatively small expenditure of time and resources.
- Biological weapons provide the broadest area coverage per pound of payload of any weapon system.
- Production of biological weapons is difficult to detect.
- Use of biological weapons can be masked in many ways, so that the user may not necessarily be detected.
- No effective defense exists against biological weapons.

25X1

Any country with a modestly developed industrial base and a reasonably mature defense industry can establish a biological warfare (BW) capability—if it chooses to do so. Any nation—and possibly some terrorist groups—could develop and deploy biological agents. And never before have so many nations possessed offensive biological warfare programs (see figure 1):

- The Soviets have had a BW program since the 1950s.

25X1

We cannot be certain that still other countries do not have BW programs.

25X1

Biological warfare programs generally are developed in countries that already have well established chemical warfare (CW) programs; this is particularly true in the Third World. And, as with the spread of chemical weapons, one country's initiation of a BW program often induces a regional rival to follow suit.

25X1

The development of new technologies—such as molecular biology and genetic engineering—is also creating an increasing interest in BW:

- Toxins that are highly flexible for use have become quick and inexpensive to develop and produce. (For example, several countries in the Middle East are developing botulinus toxin—the causative agent of botulism—as a biological warfare agent. With modern equipment, large quantities of the toxin can be made within days.)

25X1

Top Secret

SW 88-10076CX

December 1988

25X1

**Page Denied**

**Top Secret**

25X1

- More sophisticated, use-specific pathogens—living organisms—are being developed by countries with advanced biotechnology resources.
- There is a growing, and largely unregulated, international market in pharmaceutical and biotechnology equipment and reagents.

25X1

Efforts to negotiate more effective controls on BW, as well as treaty compliance monitoring, will face serious impediments with the increasing proliferation of BW programs and the relative ease with which agent production capabilities can be acquired:

- Standard medical laboratory equipment and commercial pharmaceutical and vaccine production plants can be used to develop and produce agents for biological weapons.
- Locating BW programs in their initial research and development phases is extremely difficult.
- Direct purchase of necessary equipment and expertise from other countries can eliminate the requirement for an indigenous technology base from which to develop a BW program.

25X1

v

**Top Secret**

25X1

25X1

**Page Denied**

Next 33 Page(s) In Document Denied